



ATA

MANUAL

**COMPONENT MAINTENANCE
MANUAL WITH IPL**

**AVIOX®
PORTABLE OXYGEN UNITS**

PART NUMBER

**802501-13
802501-15
802501-16
802501-19**

**802502-15
802502-16
802502-23**

**802511-11
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INTRODUCTION

This manual establishes the proper maintenance procedures which shall be followed by user maintenance, overhaul and service personnel when performing any type of service on the 802501, 802502, 802511 and 802512 Aviox Portable Oxygen Units described herein.

It is the primary intent of this manual:

- a. To specify proper safety regulations to be followed during performance of service on oxygen equipment used in aviation applications.
- b. To establish proper sequence of operations to be performed on the defined equipment.
- c. To provide the user with the data necessary to properly maintain, check, test and repair the equipment.

The following WARNINGS are presented to inform the user of this manual of the requirements which shall be adhered to when performing service procedures on this equipment. Additional WARNINGS will be found in the procedural steps in the manual.

WARNING: ANY SERVICE OR OVERHAUL PERFORMED ON THIS APPARATUS SHALL BE DONE ONLY BY THOSE FACILITIES EXPERIENCED IN, OR BY PERSONNEL KNOWLEDGEABLE IN AVIATION OXYGEN EQUIPMENT. IF NONE ARE KNOWN, CONTACT SCOTT AVIATION OR ITS DISTRIBUTORS FOR NAMES OF AUTHORIZED SERVICE CENTERS.

WARNING: ALL PROCEDURES DESCRIBED IN THIS MANUAL SHALL BE PERFORMED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER COMBUSTIBLE MATERIALS. SUCH MATERIALS, AS WELL AS DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE IGNITE AND RESULT IN AN EXPLOSION AND/OR FIRE.

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS, OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO PRESSURIZED OXYGEN. SUCH MATERIALS, AS WELL DUST, LINT, AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT, WHEN EXPOSED TO OXYGEN UNDER PRESSURE, IGNITE AND RESULT IN AN EXPLOSION.

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INTRO-1

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VERIFICATION

Testing and Fault Isolation
Disassembly
Assembly

May 15/84
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May 15/84

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INTRO-2
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DESCRIPTION AND OPERATION

1. General

- A. This manual provides overhaul instructions for the 802501, 802502, 802511 and 802512 Aviox Portable Oxygen Generator Assemblies hereafter referred to as the unit (see figure 1).



SINGLE-PAK

DUO-PAK

Oxygen Generator Assemblies
Figure 1

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2. Purpose of Equipment

- A. The unit provides a portable oxygen breathing source. It is fitted with a mask which provides the user supplemental oxygen for high altitude breathing and/or therapeutic use. At normal temperature conditions the single-pak will provide a 4 LPM (STPD) average flow for 20 minutes from its generator assembly. The duo-pak will provide a total of 40 minutes oxygen when its generators are initiated separately or an 8 LPM flow for 20 minutes when both generator assemblies are initiated simultaneously.

3. Description

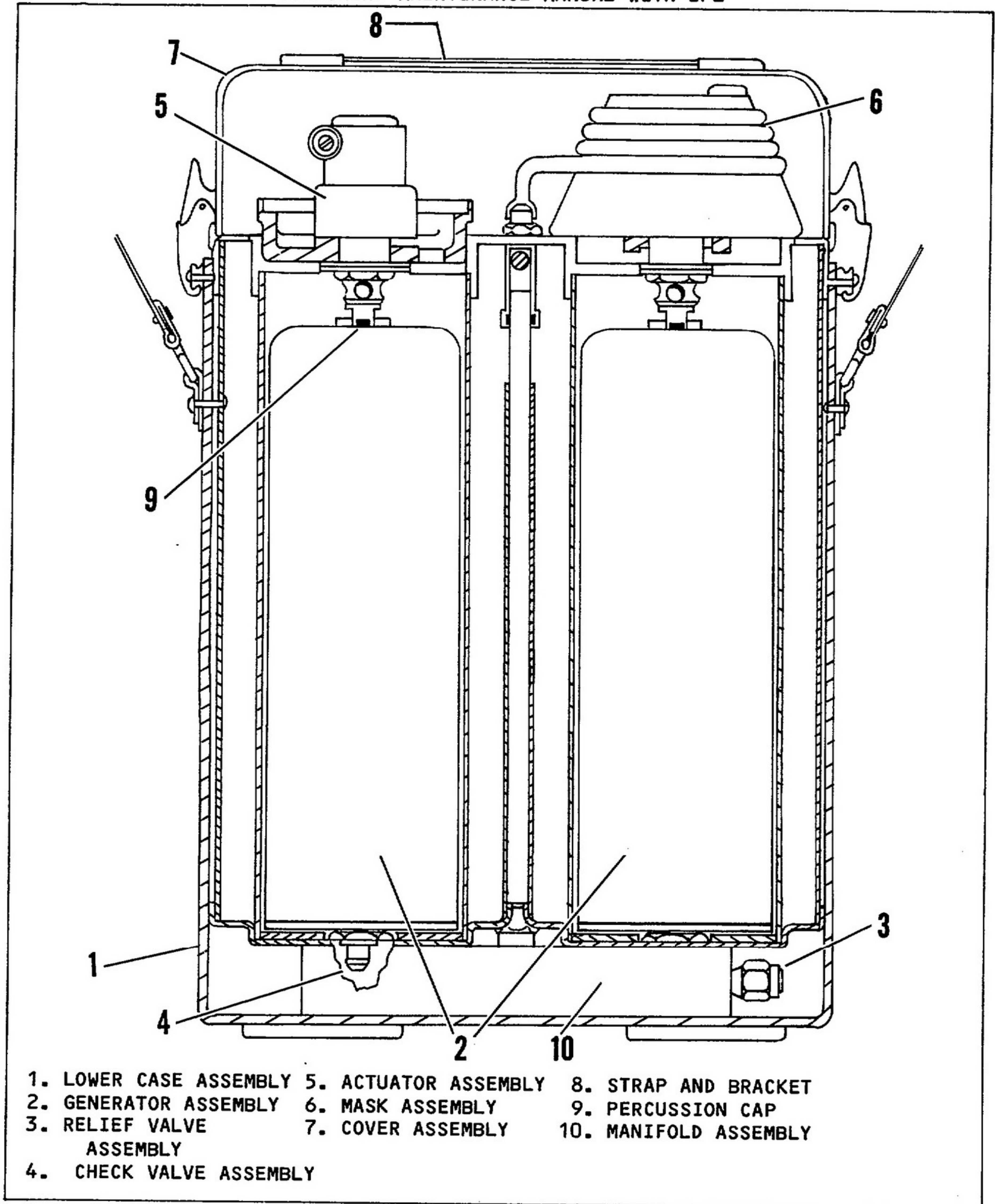
- A. The unit (see figure 2) consists of lower case assembly (1) one or two generator assemblies (2), manifold assembly (10), actuator assembly (5), one or two mask assemblies (6) and cover assembly (7).

4. Typical Installation

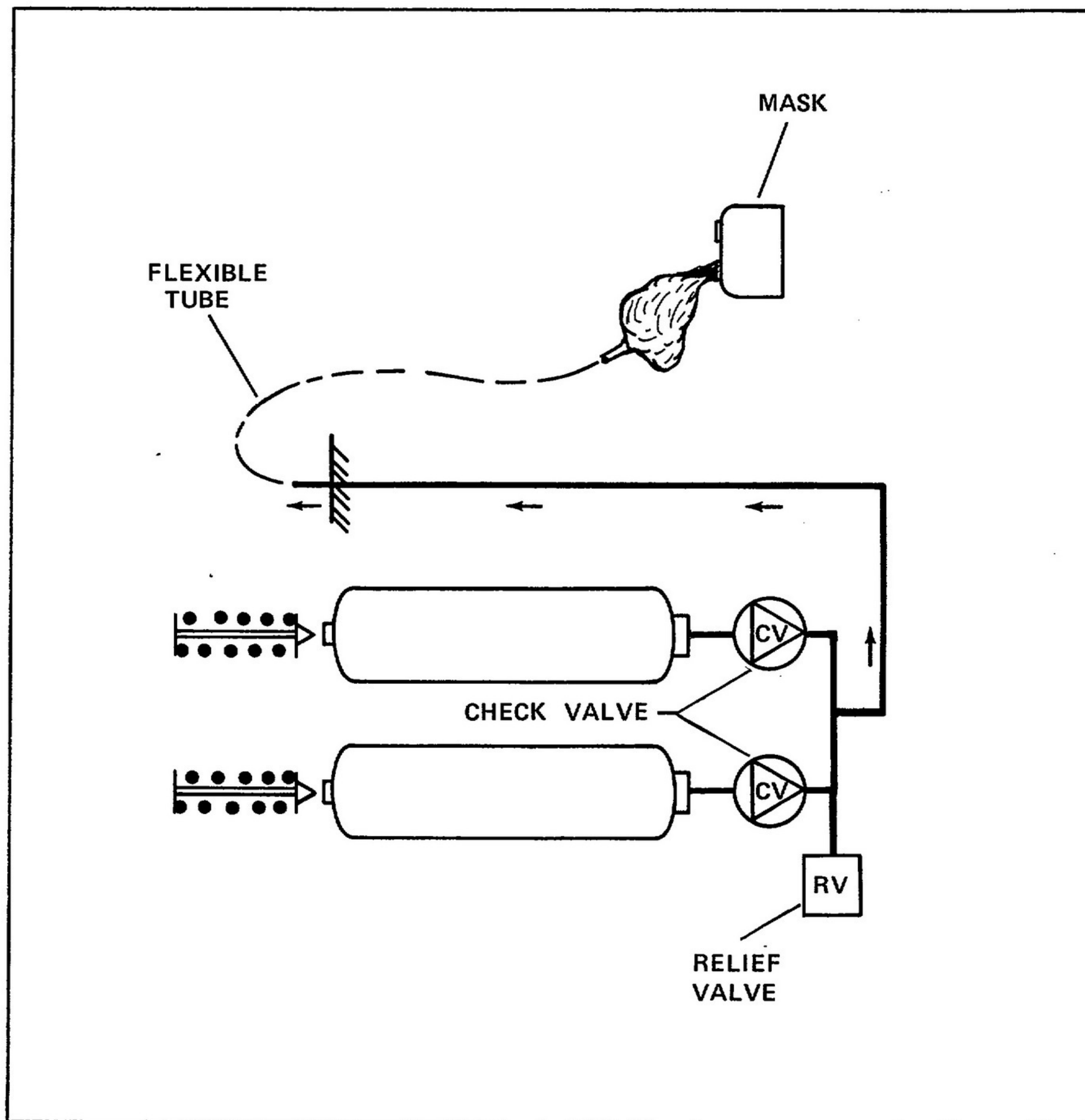
- A. The generator assembly is completely portable and is fitted with carrying strap (8, figure 2). It should be stored in a convenient and easily accessible location.

5. Overall Operation

- A. Upon release of lock and depression of "green" collar of actuator assembly (5, figure 2) a firing pin in the actuator assembly strikes percussion cap (9) in generator cartridge assembly (2), initiating oxygen flow. Oxygen flows from the generator cartridge assembly into manifold assembly (10) and then through a check valve and internal piping to mask assembly (6). Manifold assembly (10) is also fitted with relief valve assembly (3) which prevents excess pressure build-up.
- B. The unit is also fitted with a flow indicator located in the supply tubing to mask assembly (6). The flow indicator gives visual indication of oxygen flow to the mask assembly by disappearance of the red indicator.
- C. The units are fitted with a quick disconnect coupling installed in the supply tubing to mask assembly (6).
- D. Graphic presentation of the overall duo-pak system operation is shown in figure 3. The single-pak operation differs only in that it uses one generator assembly.



Aviox Duo-Pak (Cutaway View)
Figure 2



System Operational Schematic Diagram
Figure 3

TESTING AND FAULT ISOLATION

1. Testing

NOTE: The test setup should be locally fabricated using standard shop materials.

A. Prior to installing relief valve (51, IPL figure 1 or 55, IPL figure 2) in manifolds, test as follows:

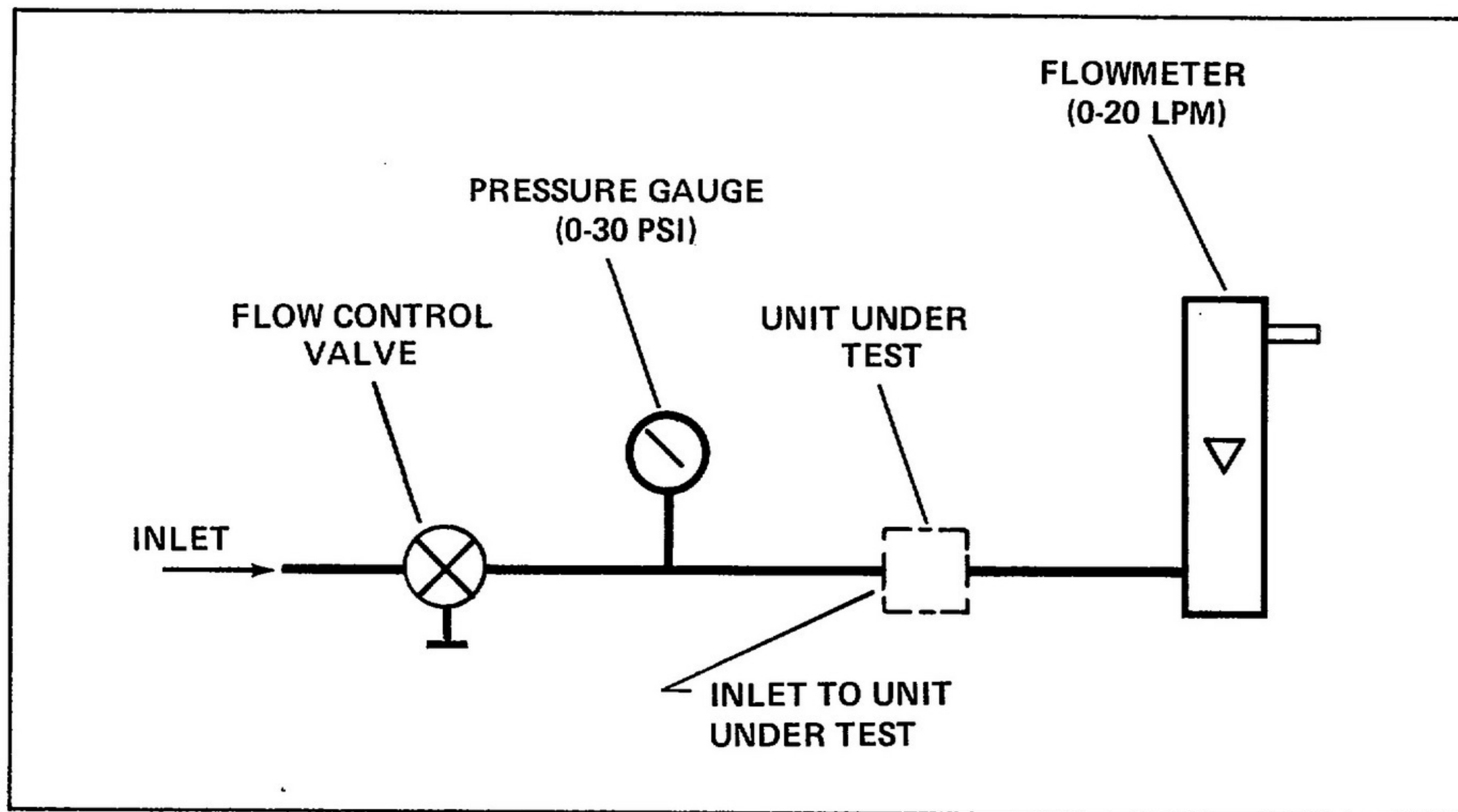
- (1) Place the relief valve in a test setup similar to figure 101.
- (2) Slowly open the flow control valve until the relief valve begins to flow. Flow shall not exceed 10 cc/min at less than 4 psi indication on gauge.
- (3) Slowly increase the inlet pressure, using the flow control valve, until the flowmeter indicates 15 LPM.
- (4) The pressure gauge shall not indicate more than 12 psi.

B. Install relief valve (51, IPL figure 1 or 55, IPL figure 2) in manifold.

- (1) Connect the manifold to a test setup similar to figure 101, using a generator probe or similar device to connect to the manifold inlet and outlet.
- (2) Slowly open flow control valve. The poppet in the manifold shall open and initiate flow when pressure gauge indicates 10 psi minimum.
- (3) Maintain inlet pressure using flow control valve. The flow shall continue to be indicated in the flowmeter.
- (4) Using the flow control valve, increase the pressure until 7-1/2 LPM is indicated on the flowmeter.
- (5) Pressure as indicated on gauge shall not exceed 15 psi.

NOTE: The above procedure shall be performed for both inlets in the duo-pak manifold.

- (6) Apply leak test solution to the connection of the relief valve and the manifold. No leakage, as indicated by bubbles, is allowed.

Test Setup
Figure 101

- C. Perform a final leak check on the completely assembled unit as follows:
- (1) Connect leak test pump (1, figure 901) to connector (27, IPL figure 1 or 31, IPL figure 2).
 - (2) Compress the aspirator bulb several times to evacuate the manifold assembly. Observe the bulb. It shall not return to its original decompressed state for a minimum of 15 seconds.

NOTE: If the aspirator bulb outlet check valve leaks, hold thumb on outlet during test.

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2. Fault Isolation

A. See figure 102 for a chart containing troubles, probable causes and corrective action.

TROUBLE	PROBABLE CAUSE	CORRECTIVE ACTION
A. Improper Flow/Pressure Indications		
(1) Pressure gauge indication above 12 psi with relief valve (51, IPL figure 1 or 55, IPL figure 2) flowing 15 LPM during test	(a) Faulty relief valve (51, IPL figure 1 or 55, IPL figure 2)	Replace relief valve
(2) Relief valve starts to flow with less than 4 psi indicated on pressure gauge during test	(a) Faulty relief valve internal components	Replace relief valve
(3) Flowmeter fails to indicate during testing of manifold (52, IPL figure 1 or 56, IPL figure 2)	(a) Faulty spring (48, IPL figure 1 or 52, IPL figure 2)	Replace spring
B. Leakage		
(1) Leakage at connection of relief valve (51, IPL figure 1 or 55, IPL figure 2) to manifold	(a) Loose relief valve (51, IPL figure 1 or 55, IPL figure 2)	Tighten relief valve
C. Inoperative Unit		
(1) Unit fails to ignite	(a) Spring in actuator assembly (24, IPL figure 1 or 28, IPL figure 2) faulty	Replace actuator assembly
	(b) Actuator assembly (24, IPL figure 1 or 28, IPL figure 2) not reset or is locked	Reset or unlock actuator assembly
	(c) Primer cap in generator assembly improperly seated and thus not armed	Reset actuator assembly and refire

Trouble Shooting Chart
Figure 102

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NOTE: See Testing and Fault Isolation, to establish the condition of the component or most probable cause of its malfunction. This is to determine the extent of disassembly required without completely tearing down and rebuilding the component.

1. Disassemble the single-pak using IPL figure 1 and the following procedure.
 - A. Remove tabs (2) by scraping with a finger nail or dull object and then unseat cover assembly (3 or 3A) from its fixed position on case assembly (23 or 23A) by opening the two latches.
 - B. Remove tool assembly (4) from cover assembly (3 or 3A)
 - C. Remove retention assembly (5) by removing stud (6) and screw (7).
 - D. Remove only damaged portion of label (12), if necessary.
 - E. Remove hose and mask assembly (15 through 21B) from case assembly (23) by disconnecting probe (16), then disassemble as follows only if damaged.
 - (1) Remove packing (15) from inside of knob (17).
 - (2) Pull probe (16) and knob (17) out of mask tubing. Then separate the probe and knob.

NOTE: It may be necessary to slit the tube in order to remove the probe and knob.
 - (3) If the hose and mask assembly is stored in bag (21A), discard the bag.
 - F. Unthread actuator assembly (24) from plate (25).
 - G. Remove generator assembly (22) using tool assembly (4). Cover the outlet probe with a proper protective cap.
 - H. Remove plate (25) by removing screws (26).
 - I. Remove connector (27) from plate (25) by removing nut (28).

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- J. Remove packing (29) and ball (30) from connector (27).
- K. Remove shield (33), then shield (34) and baffle (35).
- L. Pull plug (40) out of the case assembly, where installed.
- M. Remove manifold assembly (43 through 52) by removing screws (42).
- N. Remove spacer (43) from manifold (52) by unthreading retainer (44), then remove packing (45) from the retainer.
- O. Pull poppet (46) out of manifold (52) then remove quad ring (47) from the poppet, and spring (48) from the manifold.
- P. Remove tube (49) from elbow (50), then remove the elbow from manifold (52).
- Q. Unthread relief valve (51) from manifold (52).
- R. Remove only damaged portion of label (53, 56A, 56B, 58, 58A, 58B or 58C), if necessary.

- 2. Disassemble the duo-pak using IPL figure 2 and the following procedure.

NOTE: Disregard instructions which do not apply to the particular model being overhauled.

- A. Remove tabs (3) by scraping with a finger nail or dull object and then unseat cover assembly (4 or 4A) from its fixed position on case assembly (26, 27 or 27A) by opening the two latches.
- B. Remove tool assembly (5) from cover assembly (4 or 4A).
- C. Remove retention assembly (6) by removing stud (7) and screw (8).
- D. Remove only damaged portion of label (12), if necessary.
- E. Remove hose and mask assembly (18 through 24D) from case assembly (26, 27 or 27A) by disconnecting probe (19) or equalizer assembly (20A), then disassemble as follows only if damaged.

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- (1) Remove packing (18 or 20B) from inside of knob (20) or equalizer assembly (20A) knob.
- (2) Pull probe (19) and knob (20) or equalizer assembly (20A) out of mask tubing. Then separate the probe and knob.

NOTE: It may be necessary to slit the tubing in order to remove the probe and knob.

- (3) If the hose and mask assembly was stored in bag (24A or 24D), discard the bag.

- F. Unthread actuator assembly (28) from plate (29).
- G. Remove generator assembly (25) using tool assembly (4). Cover the outlet probe with a proper protective cap.
- H. Remove plate (29) by removing screws (30).
- I. Remove connector (31) from plate (29) by removing nut (32).
- J. Remove packing (33) and ball (34) from connector (31).
- K. Remove shield (37), then shield (38) and baffle (39).
- L. Pull plug (44) out of the case assembly, where installed.
- M. Remove manifold assembly (47 through 56) by removing screws (46).
- N. Remove spacer (47) from manifold (56) by unthreading retainer (48); then remove packing (49) from the retainer.
- O. Pull poppet (50) out of manifold (56) then remove quad ring (51) from the poppet, and spring (52) from the manifold.
- P. Remove tube (53) from elbow (54), then remove the elbow from manifold (56).
- Q. Unthread relief valve (55) from manifold (56).
- R. Remove only damaged portion of labels (57, 57A, 60A, 62, 62A, 62B or 62C), if necessary.

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CLEANING

WARNING: DO NOT ALLOW OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER COMBUSTIBLE MATERIALS TO COME IN CONTACT WITH PARTS THAT WILL BE EXPOSED TO OXYGEN. SUCH MATERIALS, AS WELL AS DUST, LINT AND FINE METAL FILINGS ARE ALL POTENTIAL COMBUSTIBLES WHICH MIGHT IGNITE WHEN EXPOSED TO OXYGEN.

1. Using the material listed in Table 401, perform the cleaning procedures outlined in the following paragraphs. Equivalent materials may be used.
2. Unpainted metal parts which have become contaminated or soiled can be cleaned using the following method.
 - A. Method A - Use a vapor degreasing method with stablized 1,1,1 Trichloroethane. Blow clean and dry with a stream of clean, dry, oil-free air or nitrogen.

MATERIAL	DESCRIPTION	USE	REFER TO
1,1,1 Trichloroethane (stabilized)	MIL-T-27602 (Mfd. by V91784*)	Method A Cleaning	Cleaning, Step 2.A.
BTC No. 2125 or equivalent	Disinfectant (Mfd. by V91993*)	Mask cleaning and disinfecting	Cleaning Step 4.A.
Neutronyx or equivalent	Detergent Cleanser (Mfd. by V91993*)	Mask cleaning and disinfecting	Cleaning Step 4.A.
*Refer to Illustrated Parts List, Step 1.D for Vendor's Code.			

List of Cleaning Materials
Table 401

3. Non-metallic parts, such as plastic and rubber components (other than the mask assembly) may be cleaned by using an ultrasonic detergent and water cleaning system. Rinse components in clean water and dry thoroughly prior to reassembly.

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4. Clean the mask assembly using the following method and the materials listed in Table 401.
 - A. Prepare a cleaning and disinfecting solution consisting of two (2) fluid ounces of BTC No. 2125 per quart of water and one (1) fluid ounce of Neutronyx per separate quart of water. Mix the two (2) quarts of solution well. Take one (1) fluid ounce of mixed solution and add to one (1) gallon of water.
 - B. Wash the mask facepiece assembly and rebreather bag, in the prepared solution and rinse in clean water. Shake out excess water. Blow clean and dry with oil-free air or nitrogen.

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CHECK

1. Carefully inspect all metal parts for cracks, nicks, dents, burrs, loose rivets and corrosion.
2. Inspect the mask assembly and supply tubing for rips, tears, kinks and proper head band attachment.

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REPAIR

1. Repair of parts, other than removing burrs and chasing male threads is not recommended.
2. Replace packings (15, 29 and 45, IPL figure 1 and 18, 20B, 33 and 49, IPL figure 2) and quad ring (47, IPL figure 1 and 51, IPL figure 2).
3. Replace any damaged components.

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ASSEMBLY

NOTE: Table 701 lists the consumable materials necessary for assembly and testing. Equivalent materials may be used.

MATERIAL	DESCRIPTION	MANUFACTURER*	REFER TO PARAGRAPH
Vinyl Cement	CD2	V93648	Assembly, steps 1.P, 2.Q
Lubricant	55M	V94499	Assembly, steps 1.E, 1.F, 1.J, 2.E, 2.F, 2.K
Leak Test Solution	Snoop (MIL-L-25567)	V18034	Testing, step 2.F
Thread Sealing Tape	Permacel No. 412	V99742	Assembly, steps 1.B, 1.C, 2.B, 2.C
*Refer to Illustrated Parts List, Step 1.D.			

Consumable Materials For Assembly and Testing
Table 701

1. Reassemble the single-pak using IPL figure 1 and the following procedure.
 - A. Place new labels (53, 56A, 56B, 58, 58A, 58B or 58C) over existing portion if replacement is required.
 - B. Wrap 1-1/2 turns of thread sealing tape to relief valve (51) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape. Thread relief valve (51) into manifold (52).
- NOTE:** Test prior to installation per Testing, steps 1 and 2.
- C. Wrap 1-1/2 turns of thread sealing tape to elbow (50) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape. Thread elbow (50) into manifold (52).

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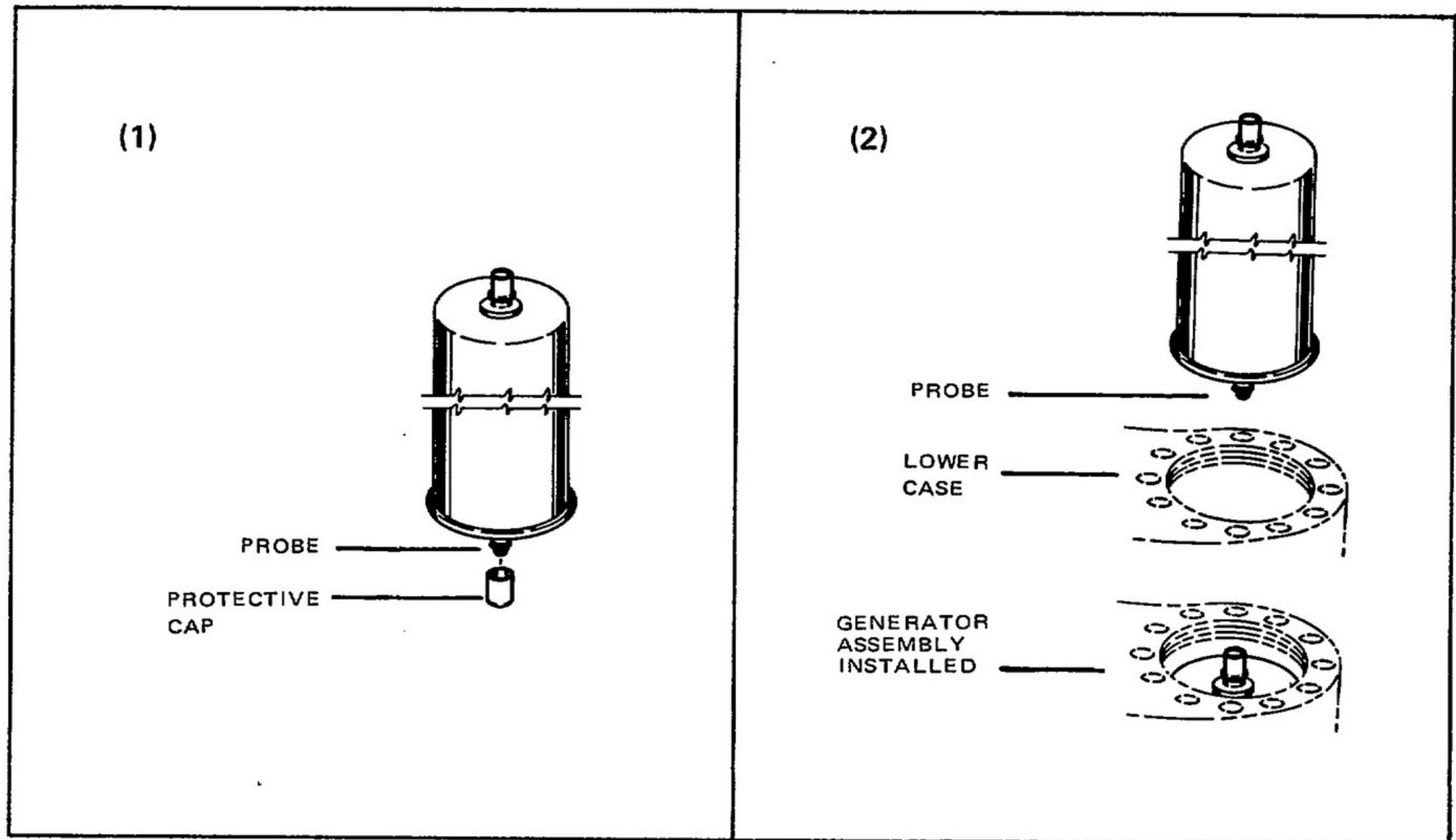
- D. Insert tube (49) in elbow (50).
- E. Place spring (48) in the recess provided; sparingly apply a wipe coat of oxygen lubricant to quad ring (47), then install the quad ring on poppet (46). Insert poppet (46) over spring (48).
- F. Sparingly apply a wipe coat of oxygen lubricant to packing (45) then install the packing on retainer (44).
- G. Place spacer (43) on manifold (52) and thread in retainer (44) to maintain position. Orient spacer the same way as the manifold.

NOTE: Shoulder of retainer shall be completely in hole of spacer.

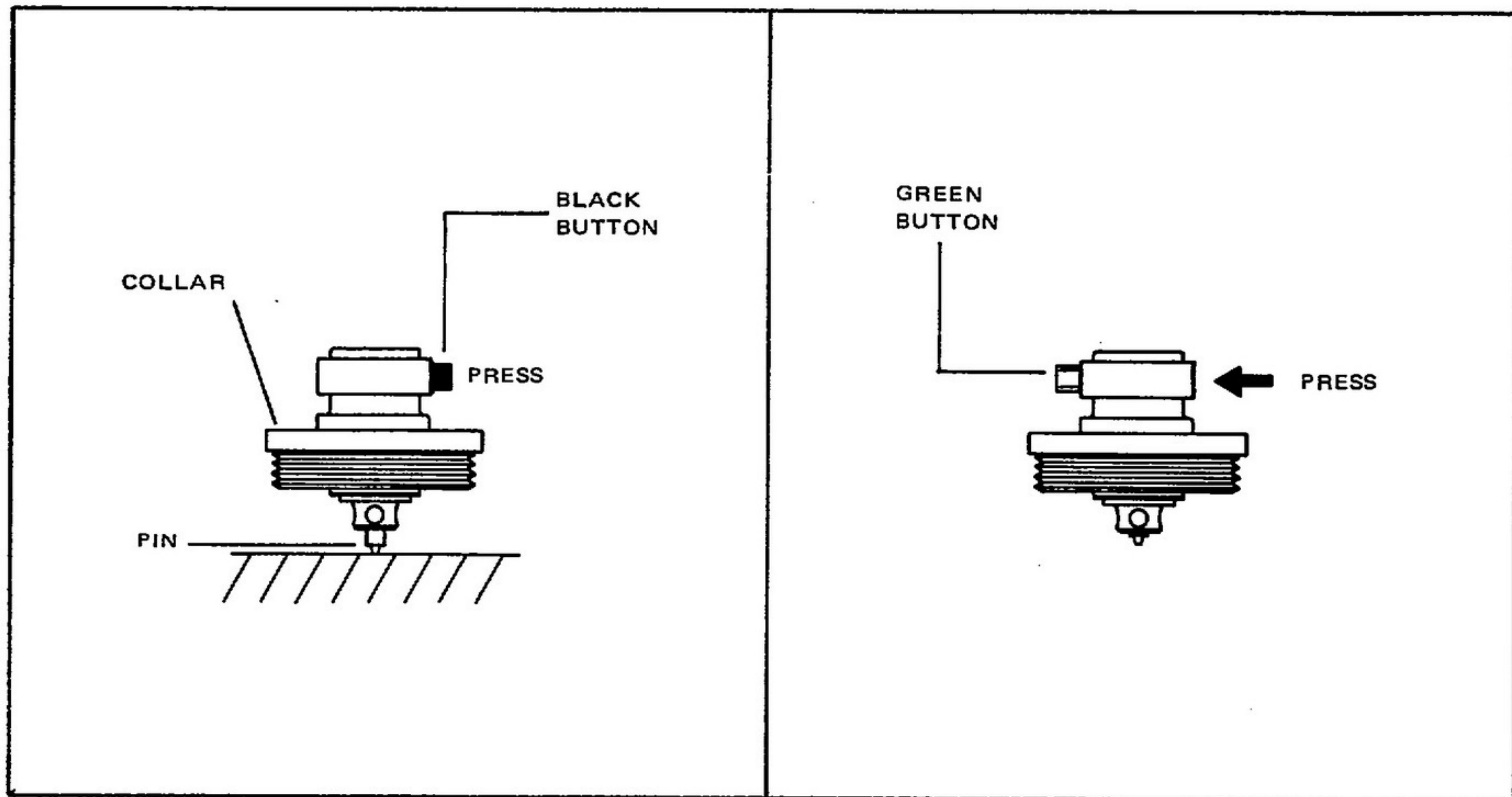
- H. Orient the assembled manifold assembly in the bottom of the lower case assembly and retain with screws (42) after testing.
- I. Place baffle (35) then inner shield (34) and outer shield (33) on spacer (43).
- J. Invert connector (27) and insert ball (30), then sparingly apply a wipe coat of oxygen lubricant to packing (29) and install in the groove in connector (27).
- K. Place connector (27) in plate (25) and retain with nut (28).
- L. Place plate (25) in the lower case assembly and retain with screws (26).

NOTE: Be sure that connector (27) engages tube (49) and perform a final leak check in accordance with Testing, step 3.

- M. Insert generator assembly (22) in case assembly (23) using figure 701 and the following procedure.
 - (1) Remove the protective cap from the outlet probe.
 - (2) With the probe down, insert the generator assembly into the lower case assembly. Be sure that the probe is properly and fully inserted into the manifold assembly at the bottom of the lower case assembly. Press all the way in.

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COMPONENT MAINTENANCE MANUAL WITH IPLGenerator Installation
Figure 701

- N. Check and reset actuator assembly (24, IPL figure 1), using figure 702 and the following procedure.
- (1) To reset the actuator assembly mechanism, hold the assembly by the outer collar only. Place the pin which protrudes from the bottom of the assembly against a smooth surface and press until the collar snaps upward. The pin will then be in the upward or ready position.
 - (2) Lock the actuator mechanism by pressing the Black button into the locked position. When locked, you will see the Green button protruding from the actuator assembly.



Resetting Actuator Assembly
Figure 702

CAUTION: DO NOT OVERTIGHTEN ACTUATOR ASSEMBLY.

- O. With actuator assembly (24, IPL figure 1) set and locked as described in Step N., place the center of the actuator assembly pin into the stud on generator assembly (22). After properly centering on the generator assembly, rotate the actuator assembly clockwise into the threads in plate (25) until snug.
- P. Reassemble hose and mask assembly (15 through 21B) as follows:
 - (1) Slide knob (17) over probe (16), then slide packing (15) down the shaft of the probe. Thread the assembled components into connector (27) to seat the packing. Do not remove.
 - (2) Slide the free end of the mask tubing onto probe (16) a minimum of 0.25 inch.
 - (3) Tuck the headband and mask bag inside mask assembly (21B).

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- (4) Wrap the supply tubing around the outside periphery of the mask, starting at the larger end and wrapping toward the smaller end. Avoid kinking or pinching of the supply hose.
- (5) Place the packed mask in bag (21A) then over actuator assembly (24).
- Q. Apply new label (12) over remaining portion of the old label, if it was necessary to partially remove any of the old label during disassembly.
- R. Place screw (7) through stud (6) and then through the hole in retention assembly (5). Thread the screw into the hole in the top of cover assembly (3 or 3A). Snap the free end of retention assembly (5) to the stud provided in plate (25).
- S. Install tool assembly (4) on stud (6).
- T. After latching the cover assembly to the case assembly, place tabs (2) on the front and back of the unit and over the joint formed by the two sections.

NOTE: Use a fingernail or dull object to burnish the tabs in place.

- 2. Reassemble the duo-pak using IPL figure 2 and the following procedure.

- A. Place new labels (57, 57A, 60A, 62, 62A, 62B or 62C) over existing portion if replacement is required.
- B. Wrap 1-1/2 turns of thread sealing tape to relief valve (55) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape. Thread relief valve (55) into manifold (56).

NOTE: Test prior to installation per Testing, steps 1 and 2.

- C. Wrap 1-1/2 turns of thread sealing tape to elbow (54) in the direction of the thread spiral, beginning with the first thread. In no case shall the tape extend beyond the first thread. Trim off excess tape. Thread elbow (54) into manifold (56).

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- D. Insert tube (53) in elbow (54).
- E. Place springs (52) in the recesses provided; sparingly apply a wipe coat of oxygen lubricant to quad rings (51), then install the quad rings on poppets (50). Insert poppets (50) over springs (52).
- F. Sparingly apply a wipe coat of oxygen lubricant to packings (49), then install the packings on retainers (48).
- G. Place spacers (47) on manifold (56) and thread in retainers (48) to maintain position. Orient spacers the same way as the manifold.

NOTE: Shoulder of retainer shall be completely in hole of spacer.

- H. Orient the assembled manifold assembly in the bottom of the lower case assembly and retain with screws (46) after testing.
- I. Push plug (44) into the hole in the bottom of the lower case assembly.
- J. Place baffles (39), then inner shields (38) and outer shields (37) on spacers (47).
- K. Invert connector (31) and insert ball (34), then sparingly apply a wipe coat of oxygen lubricant to packing (33) and install in the groove in connector (31).
- L. Place connector (31) in plate (29) and retain with nut (32).
- M. Place plate (29) in the lower case assembly and retain with screws (30).

NOTE: Be sure that connector (31) engages tube (53).

- N. Insert generator assemblies (25) in case assembly (26, 27 or 27A) using figure 701 and the following procedure.

(1) Remove the protective cap from the outlet probe.

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- (2) With the probe down, insert the generator assembly into the lower case assembly. Be sure that the probe is properly and fully inserted into the manifold assembly at the bottom of the lower case assembly. Press all the way in.

0. Check, and reset actuator assemblies (28, IPL figure 2) using figure 702 and the following procedure.

- (1) To reset the actuator assembly mechanism, hold the assembly by the outer collar only. Place the pin which protrudes from the bottom of the assembly against a smooth surface and press until the collar snaps upward. The pin will then be in the upward or ready position.
- (2) Lock the actuator mechanism by pressing the Black button into the locked position. When locked, you will see the Green button protruding from the actuator assembly.

CAUTION: DO NOT OVERTIGHTEN ACTUATOR ASSEMBLY.

P. With actuator assembly (28, IPL figure 2) set and locked as described in Step 0., place the center of the actuator assembly pin into the stud on generator assembly (25). After properly centering on the generator assembly, rotate the actuator assembly clockwise into the threads in plate (29) until snug.

Q. Reassemble hose and mask assembly (18 through 24D) as follows:

- (1) Slide knob (20) over probe (19), then slide packing (18) down the shaft of the probe or slide packing (20B) onto equalizer assembly (20A). Thread the assembled components into connector (31) or seat the packing. Do not remove.
- (2) Slide the free end of mask tubing onto probe (19) or equalizer assembly (20A) a minimum of 0.25 inch.
- (3) Tuck the headband and mask bag inside mask assembly (24B or 24C).

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- (4) Wrap the supply tubing around the outside periphery of the mask, starting at the larger end and wrapping toward the smaller end. Avoid kinking or pinching of the supply hose.
- (5) Place the packed mask in bag (24A or 24D) then over actuator assembly (28).
- R. Apply new label (12) over remaining portion of the old label, if it was necessary to partially remove any of the old label during disassembly.
- S. Place screw (8) through stud (7) and then through the hole in retention assembly (6). Thread the screw into the hole in the top of cover assembly (4 or 4A). Snap the free end of retention assembly (6) to the stud provided in plate (29).
- T. Install tool assembly (5) on stud (7).
- U. After latching the cover assembly to the case assembly, place tabs (3) on the front and back of the unit and over the joint formed by the two sections.

NOTE: Use a fingernail or dull object to burnish the tabs in place.

3. Storage

- A. Place the reassembled unit in a clean, sealed polyethylene bag to preclude the accumulation of dust and dirt.
- B. Store in a cool area, away from sources of high heat and humidity.

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FITS AND CLEARANCES

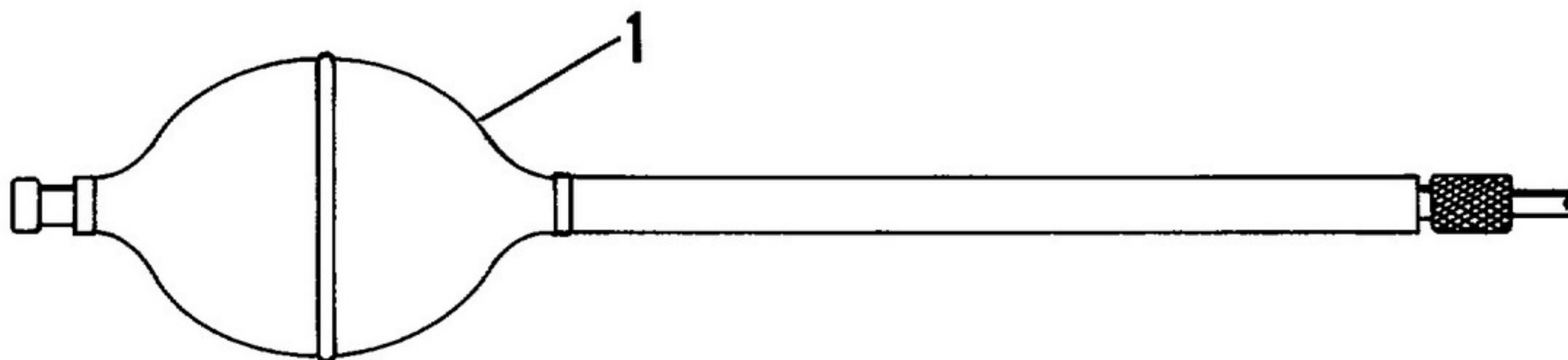
1. None

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SPECIAL TOOLS, FIXTURES AND TEST EQUIPMENT

1. See figure 901 for special tools, fixtures and test equipment. Equivalent substitute may be used.



1. Leak Test Pump, P/N 802289-01, manufactured by Scott Aviation, Lancaster, N.Y., U.S.A.

Special Tools, Fixtures and Test Equipment
Figure 901

2. All other tools, gauges, fixtures and test equipment listed in this manual are considered to be standard oxygen shop tools.

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ILLUSTRATED PARTS LIST

1. This Illustrated Parts List lists and describes the parts of the 802501, 802502, 802511 and 802512 Aviox portable oxygen generator assemblies.
 - A. The Illustrated Parts List consists of two parts lists and two completely indexed drawings (IPL figures 1 and 2) showing component parts of the units. The Aviox assemblies are followed immediately by their component parts, properly indented thereunder to show their relationship to the assemblies.
 - B. The quantities listed in the "UNITS PER ASSY" column are the total quantity used per Aviox assembly.
 - C. The part numbers listed in the "PART NUMBER" column are Scott Aviation part numbers except standard parts which are denoted by either "AN" or "MS" part numbers.
 - D. The following list contains the codes, and names and addresses of manufacturers supplying items or articles for Aviox overhaul as listed in Tables 401 and 701.

VENDOR'S CODE

CODE	NAME AND ADDRESS
V03530	American Gas and Chemicals, Inc. New York, New York
V18034	Nupro Willoughby, Ohio
V91784	Hooker Chemical Corp. Niagara Falls, New York
V91993	Onyx Chemical Corp. Jersey City, New Jersey
V93648	Chemical Development Corp. Danvers, Massachusetts
V94499	Dow Corning Corp. Alpha Molykote Plant Stamford, Connecticut
V99742	Johnson and Johnson Inc. Permacel Division New Brunswick, New Jersey

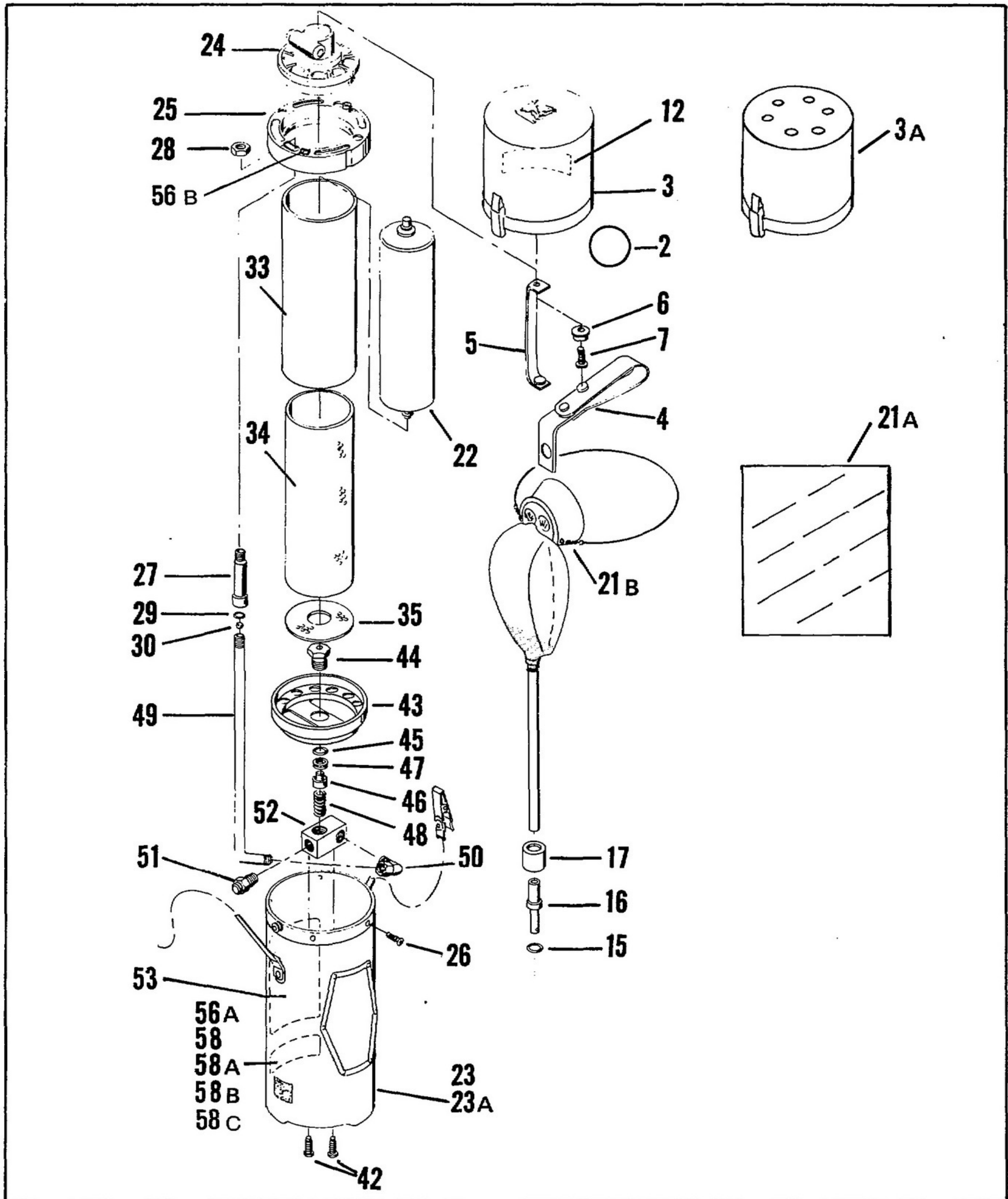


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COMPONENT MAINTENANCE MANUAL WITH IPL

2. How to use the Illustrated Parts List

- A. If neither the part number or the nomenclature is known, the part can be found by comparison with the exploded view illustration. When located on the illustration, the item number will refer to the line in the parts listing with the part number and the nomenclature.
- B. If the part number is known and it is desired to find the nomenclature or illustration, locate the part number in the "PART NUMBER" column of the Illustrated Parts List. The next column gives the nomenclature and the item number refers to the index number in the exploded view.
- C. The following effect codes have been assigned to the items contained in IPL figures 1 and 2.

PART NUMBER		EFFECT CODE
802501-15	Aviox Single-Pak Portable Oxygen Generator Assembly	A
802502-15	Aviox Duo-Pak Portable Oxygen Generator Assembly	B
802512-11	Aviox Duo-Pak Portable Oxygen Generator Assembly	C
802501-16	Aviox Single-Pak Portable Oxygen Generator Assembly	D
802511-11	Aviox Single-Pak Portable Oxygen Generator Assembly	E
802502-16	Aviox Duo-Pak Portable Oxygen Generator Assembly	F
802512-15	Aviox Duo-Pak Portable Oxygen Generator Assembly	G
802501-13	Aviox Single-Pak Portable Oxygen Generator Assembly	H
802502-23	Aviox Duo-Pak Portable Oxygen Generator Assembly	J
802501-19	Aviox Single-Pak Portable Oxygen Generator Assembly	K



Aviox Single-Pak
Figure 1

802501, 802502, 802511, 802512
COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1-1	802501-15		AVIOX - SINGLE - PAK	A	RF
-1A	802501-16		AVIOX - SINGLE - PAK	D	RF
-1B	802511-11		AVIOX - SINGLE - PAK	E	RF
-1C	802501-13		AVIOX - SINGLE - PAK	H	RF
-1D	802501-19		AVIOX - SINGLE - PAK	K	RF
2	10004952		. TAB - TAMPER	ADHK	2
3	802132-00		. COVER ASSY - UPPER	AEHK	1
3A	802132-01		. COVER ASSY - UPPER	D	1
4	801913-00		.. TOOL ASSY - GEN REM	ADEHK	1
5	801917-00		.. RETENTION ASSY - COVER (ATTACHING PARTS)	ADEHK	1
6	36464-00		.. STUD	ADEHK	1
7	33324-027		.. SCREW -----*	ADEHK	1
-8	36463-00		.. INSERT - THREADED	ADEHK	1
-9	36461-00		.. LATCH - DRAW (ATTACHING PARTS)	ADEHK	2
-10	33518-428		.. RIVET -----*	ADEHK	4
-11	48008308		.. FASTENER - HOOK TAPE	ADEHK	1
12	10004907		.. LABEL - WARNING	AEHK	1
-13	10004391		.. COVER	AEHK	1
-13A	10005386		.. COVER	D	1
-14	802091-01		. HOSE AND MASK ASSY (SUPERSEDED BY ITEM -14A)	E	1
-14A	803203-01		. HOSE AND MASK ASSY (SUPERSEDES ITEM -14)	ADEHK	1
15	18003-00		.. PACKING - PREFORMED	ADEHK	1
16	10004962		.. PROBE - DISCONNECT	ADEHK	1
17	10004965		.. KNOB - SWIVEL DISCONNECT	ADEHK	1
18	DELETED				
19	DELETED				
20	DELETED				
21	DELETED				
21A	10004320		.. BAG - PLASTIC	ADEHK	1
21B	28672-223		.. MASK ASSEMBLY	ADEHK	1
22	802093-01	1	. GENERATOR ASSEMBLY	ADHK	1
23	802130-00		. CASE ASSY - LOWER	ADHK	1
23A	802130-01		. CASE ASSY - LOWER	E	1
24	801911-01		.. ACTUATOR ASSEMBLY	ADEHK	1

- ITEM NOT ILLUSTRATED

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COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
1 25	10004397		.. PLATE - MOUNTING (ATTACHING PARTS)	ADEHK	1
26	36469-01		.. SCREW - SELF TAPPING -----*-----	ADEHK	4
27	10004963		.. TUBE - CONNECTOR (ATTACHING PARTS)	ADEHK	1
28	MS16203-57		.. NUT - JAM -----*-----	ADEHK	1
29	18069-00		.. PACKING - PREFORMED	ADEHK	1
30	10003144		.. BALL - RUBBER	ADEHK	1
-31	36468-00		.. EYELET (ATTACHING PARTS)	ADEHK	1
-32	58326-00		.. STUD -----*-----	ADEHK	1
33	10004395		.. SHIELD	ADEHK	1
34	10004396		.. SHIELD	ADEHK	1
35	10004929		.. BAFFLE	ADEHK	1
-36	36470-00		.. CLAWBOLT (ATTACHING PARTS)	ADEHK	2
-37	33518-432		.. RIVET	ADEHK	2
-37A	33452-903		.. WASHER -----*-----	ADEHK	2
-38	802133-00		.. STRAP ASSY - CARRYING (ATTACHING PARTS)	ADEHK	1
-39	33520-303		.. RIVET	ADEHK	2
-39A	36472-00		.. WASHER -----*-----	ADEHK	2
40	DELETED				
-41	802129-00		.. MANIFOLD ASSEMBLY (ATTACHING PARTS)	ADEHK	1
42	36460-01		.. SCREW - SELF TAPPING -----*-----	ADEHK	2
43	10004409		... SPACER - SHIELD (ATTACHING PARTS)	ADEHK	1
44	10004410		... RETAINER - CV -----*-----	ADEHK	1
45	36477-00		... PACKING - PREFORMED	ADEHK	1
46	10004408		... POPPET - CHECK VALVE	ADEHK	1
47	36478-00		... QUAD RING	ADEHK	1
48	10004908		... SPRING - CHECK VALVE	ADEHK	1
49	10004966		... TUBE - OUTLET	ADEHK	1

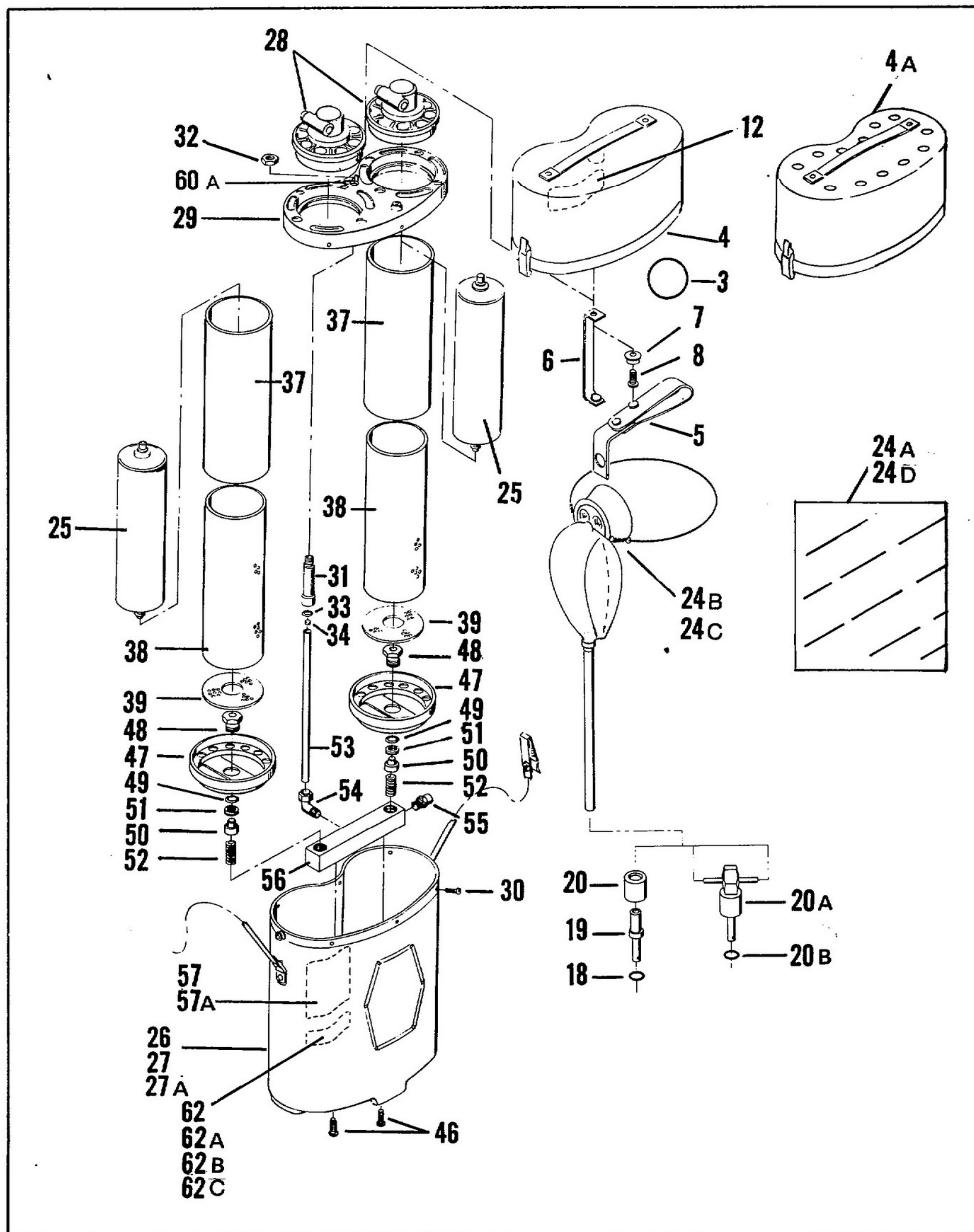
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- ITEM NOT ILLUSTRATED

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COMPONENT MAINTENANCE MANUAL WITH IPL

FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY	
1 50	33529-106		... ELBOW	ADEHK	1	
51	36479-00		... VALVE - RELIEF	ADEHK	1	
52	10004961		... MANIFOLD	ADEHK	1	
53	10006297		.. LABEL - EMER INST	ADEHK	1	R
-54	802110-02		.. NAMEPLATE	ADEHK	1	
-54A	DELETED					
			(ATTACHING PARTS)			
-55	33518-426		.. RIVET	ADEHK	6	
			-----*-----			
-56	48008308		.. FASTENER - HOOK TAPE	ADEHK	2	
56A	10004892		.. LABEL - IDENT	E	1	
56B	10006843		.. PLATE - IDENT	ADEHK	1	R
-57	10004393		.. CASE	ADEHK	1	
58	10004982		. LABEL - CUSTOMER ID	A	1	
58A	10005124		. LABEL - MFG IDENT	H	1	
58B	10005396		. LABEL - CUSTOMER ID	D	1	
58C	10006556		. LABEL - IDENT	K	1	R
-59	802111-00		KIT - GEN REPLACEMENT	ADHK	1	
	802093-01		. GENERATOR ASSY	ADHK	1	
	10004952		. TAB - TAMPER	ADHK	2	
	36474-01		. CAP - PROTECTIVE	ADHK	1	R
	89039-00		. CARD - INSTRUCTION	ADHK	1	
<div>1</div> ITEM -59 REQUIRED TO REPLACE ITEM 22						

- ITEM NOT ILLUSTRATED



Aviox Duo-Pak
Figure 2

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FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
2-1	802502-15		AVIOX - DUO - PAK	B	RF
-2	802512-11		AVIOX - DUO - PAK	C	RF
-2A	802502-16		AVIOX - DUO - PAK	F	RF
-2B	802512-15		AVIOX - DUO - PAK	G	RF
-2C	802502-23		AVIOX - DUO - PAK	J	RF
3	10004952		. TAB - TAMPER	BFGJ	2
4	802089-00		. COVER ASSY - UPPER	BCGJ	1
4A	802089-01		. COVER ASSY - UPPER	F	1
5	801913-00		.. TOOL ASSY - GEN REM	BCFGJ	1
6	801917-00		.. RETENTION ASSY - COVER (ATTACHING PARTS)	BCFGJ	1
7	36464-00		.. STUD	BCFGJ	1
8	33324-027		.. SCREW -----*	BCFGJ	1
-9	36463-00		.. INSERT - THREADED	BCFGJ	1
-10	36461-00		.. LATCH - DRAW (ATTACHING PARTS)	BCFGJ	2
-11	33518-428		.. RIVET -----*	BCFGJ	4
12	10004907		.. LABEL - WARNING	BCGJ	1
-13	36589-00		.. STRAP AND BRACKET (ATTACHING PARTS)	BCFGJ	1
-14	33515-306		.. RIVET	BCFGJ	2
-15	AN960PD6		.. WASHER -----*	BCFGJ	2
-16	10004912		.. COVER	BCGJ	1
-16A	10005387		.. COVER	F	1
-17	802091-01		. HOSE AND MASK ASSY (SUPERSEDED BY ITEM -17A)	CG	1
-17A	803203-01		. HOSE AND MASK ASSY (SUPERSEDES ITEM -17)	BCFG	1
-17B	802165-02		. HOSE AND MASK ASSY	J	1
18	18003-00		.. PACKING - PREFORMED	BCFG	1
19	10004962		.. PROBE - DISCONNECT	BCFG	1
20	10004965		.. KNOB - SWIVEL DISCONNECT	BCFG	1
20A	802950-01		.. EQUALIZER ASSY - FLOW	J	1
20B	18003-00		... PACKING - PREFORMED	J	1
-20C	27515-01		... PROBE - DISCONNECT	J	1
-20D	10004965		... KNOB - SWIVEL DISCONNECT	J	1
-20E	27516-01		... MANIFOLD	J	1
21	DELETED				
22	DELETED				

- ITEM NOT ILLUSTRATED

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FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
2 23	DELETED				
24	DELETED				
24A	10004320		.. BAG - PLASTIC	BCFG	1
24B	28672-223		.. MASK ASSEMBLY	BCFG	1
24C	28672-223		.. MASK ASSEMBLY	J	2
24D	10004320		.. BAG - PLASTIC	J	2
25	802093-01	1	. GENERATOR ASSEMBLY	BFGJ	2
26	802088-00		. CASE ASSY - LOWER	BF	1
27	802088-01		. CASE ASSY - LOWER	CG	1
27A	802088-03		. CASE ASSY - LOWER	J	1
28	801911-01		.. ACTUATOR ASSEMBLY	BCFGJ	2
29	10004906		.. PLATE MOUNTING (ATTACHING PARTS)	BCFGJ	1
30	36469-01		.. SCREW - SELF TAPPING -----*-----	BCFGJ	7
31	10004963		.. CONNECTOR - TUBE (ATTACHING PARTS)	BCFGJ	1
32	MS16203-57		.. NUT - JAM -----*-----	BCFGJ	1
33	18069-00		.. PACKING - PREFORMED	BCFGJ	1
34	10003144		.. BALL - RUBBER	BCFGJ	1
-35	36468-00		.. EYELET (ATTACHING PARTS)	BCFGJ	1
-36	58326-00		.. STUD -----*-----	BCFGJ	1
37	10004395		.. SHIELD - OUTER	BCFGJ	2
38	10004396		.. SHIELD - INNER	BCFGJ	2
39	10004929		.. BAFFLE	BCFGJ	2
-40	36470-00		.. CLAWBOLT (ATTACHING PARTS)	BCFGJ	2
-41	33518-432		.. RIVET	BCFGJ	2
-41A	33452-903		.. WASHER -----*-----	BCFGJ	2
-42	802087-00		.. STRAP ASSY - CARRYING (ATTACHING PARTS)	BCFGJ	1
-43	33520-303		.. RIVET	BCFGJ	2
-43A	36472-00		.. WASHER -----*-----	BCFGJ	2
44	DELETED				
45	802090-00		.. MANIFOLD ASSEMBLY (ATTACHING PARTS)	BCFGJ	1
46	36460-01		.. SCREW - SELF TAPPING -----*-----	BCFGJ	2

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- ITEM NOT ILLUSTRATED

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FIG. ITEM	PART NUMBER	AIRLINE STOCK NO.	NOMENCLATURE 1234567	EFF CODE	UNITS PER ASSY
2 47	10004409		... SPACER - SHIELD (ATTACHING PARTS)	BCFGJ	2
48	10004410		... RETAINER - CV -----*-----	BCFGJ	2
49	36477-00		... PACKING - PREFORMED	BCFGJ	2
50	10004408		... POPPER - CHECK VALVE	BCFGJ	2
51	36478-00		... QUAD RING	BCFGJ	2
52	10004908		... SPRING - CHECK VALVE	BCFGJ	2
53	10004905		... TUBE - OUTLET	BCFGJ	1
54	33529-106		... ELBOW	BCFGJ	1
55	36479-00		... VALVE - RELIEF	BCFGJ	1
56	10004913		... MANIFOLD	BCFGJ	1
57	10006297		.. LABEL - EMER INST	BCFG	1
57A	10006298		.. LABEL - EMER INST	J	1
-58	802110-00		.. NAMEPLATE	BFJ	1
-59	802110-01		.. NAMEPLATE (ATTACHING PARTS)	CG	1
-60	33518-426		.. RIVET -----*-----	BCFGJ	6
60A	10006843		.. PLATE - IDENT	BCFGJ	1
-61	10004400		.. CASE	BCFGJ	1
62	10004983		. LABEL - CUST IDENT	B	1
62A	10005125		. LABEL - MFG IDENT	J	1
62B	10005397		. LABEL - CUST IDENT	F	1
62C	10004895		. LABEL - IDENT	CG	1
-63	802111-00		KIT - GEN REPLACEMENT	BFGJ	1
	802093-01		. GENERATOR ASSEMBLY	BFGJ	1
	10004952		. TAB - TAMPER	BFGJ	2
	36474-01		. CAP - PROTECTIVE	BFGJ	1
	89039-00		. CARD - INSTRUCTION	BFGJ	1
<div> <div>1</div> ITEM -63 REQUIRED TO REPLACE ITEM 25 </div>					

- ITEM NOT ILLUSTRATED